



DOLLARS FOR
DATA

What if I decided that all transit funding sources are lumped into one pot of money.

Then I gave 75% to Wake County (MY county) and distributed the rest amongst every other County?

- **No explanations.**
- **No analysis.**
- **No additional funding requests.**

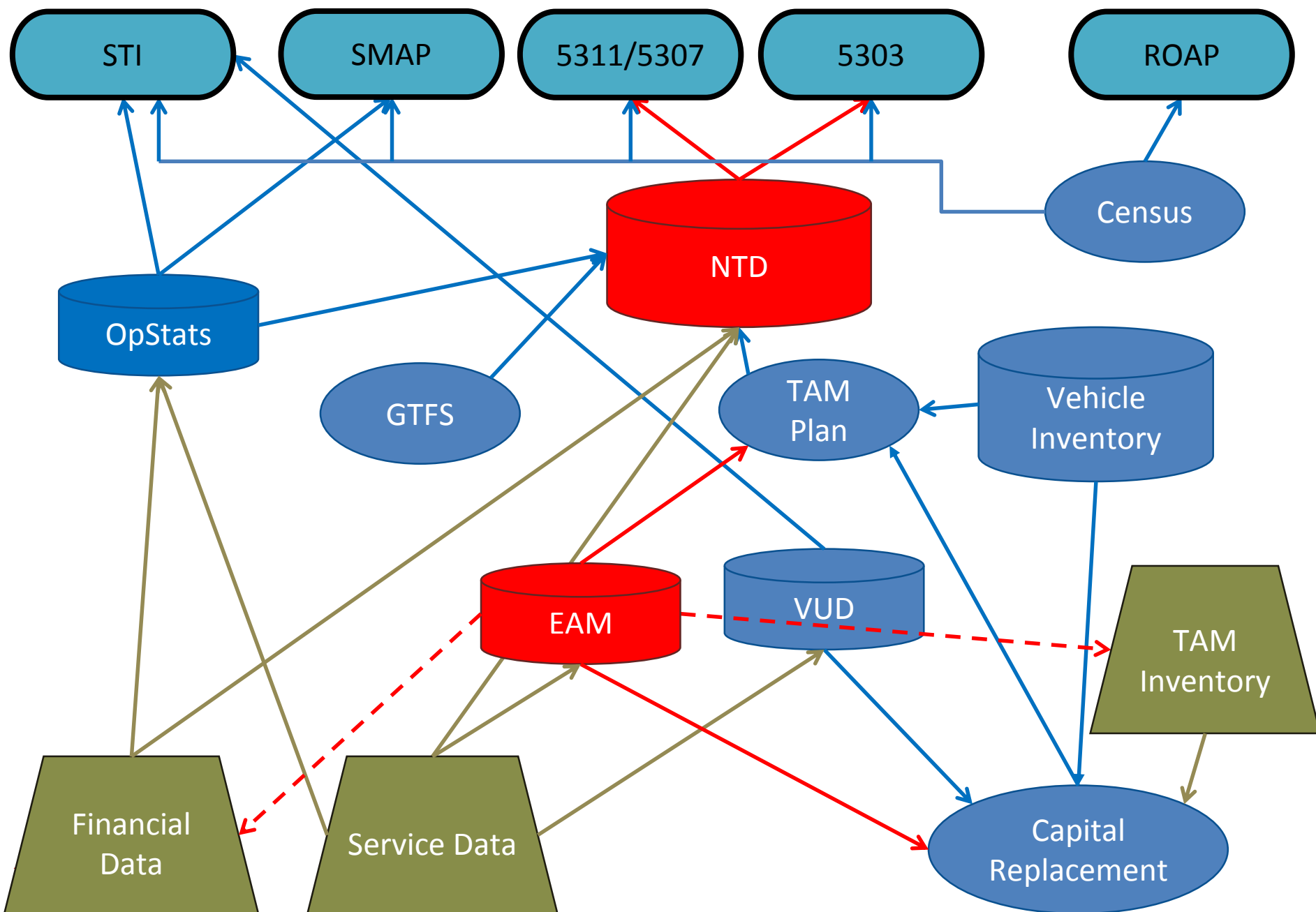
Sound Fair and Equitable?

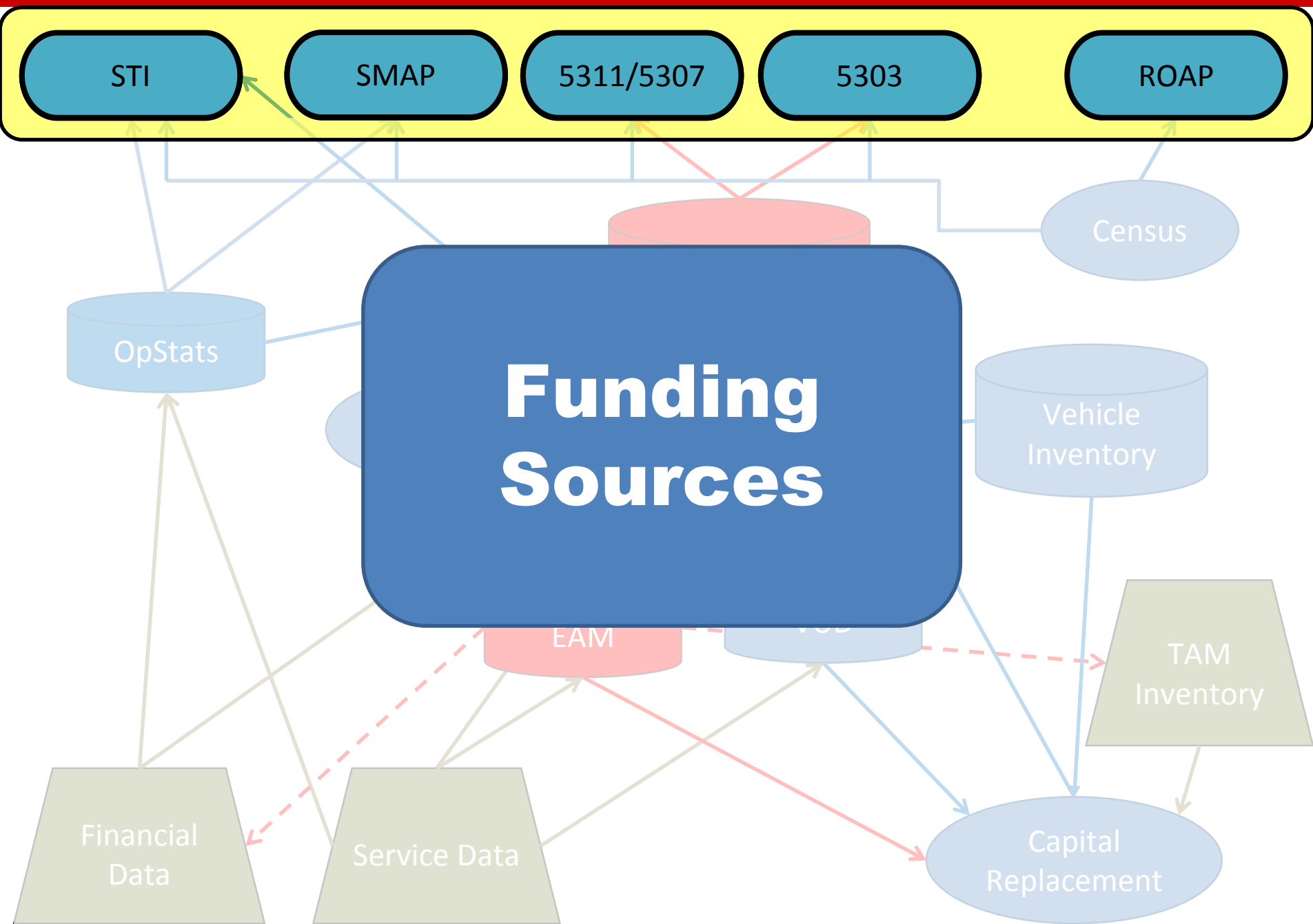


Data Driven Funding Allocation

DATA DRIVEN >>







5311

Eligible Recipients

- States
- Federally recognized Indian Tribes

Eligible Activities

- Capital
- Planning
- Operating
- Job Access and Reverse Commuting
- Acquisition of Public Transportation Services

Allocation Variables

- **Revenue Miles**
- Land Area
- Population
- Low-income Population

Federal Share

- 80%
 - Capital
 - ADA service
- 50%
 - Operating



**Federal Transit
Administration**

Data Source

OpStats
Census

5307

Eligible Recipients

Urbanized Areas

Eligible Activities

- **Planning**
- **Engineering**
- **Design and Evaluation of Transit Projects**
- **Capital Investments - Replacement, Overhaul, Rebuilding**
- **Operating Assistance -- Only for UZAs less than 200,000**

Allocation Variables

- **Population and Population Density**
- **UZA greater than 200,000 ONLY**
 - Bus revenue miles: \$.40/mile
 - Bus passenger miles
 - fixed guideway revenue miles

Federal Share

- Capital Expenditures: 80%
- ADA Capital Expenditures: 90%
- Operating: 50%



**Federal Transit
Administration**

Data Source

OpStats
Census

5303

Eligible Recipients

State DOTs and MPOs

Federal Share

80%

Eligible Activities

- **Planning Activities that support**
 - Economic vitality of metropolitan area
 - Increase safety & security of transit system for motorized and nonmotorized users
 - Increase accessibility and mobility of people
 - Protect and enhance environment, promote energy conservation, improve quality of life,...
 - Enhance integration and connectivity of transportation across/between modes
 - Promote efficient system management
 - Emphasize preservation of existing transportation system

Allocation Variables

- **Apportioned to state based on:**
 - State's urbanized area population / Nation's urbanized area population
- **Apportioned to MPOs based on:**
 - MPOs urbanized area population
 - Individual planning needs (used minimum distribution)



**Federal Transit
Administration**

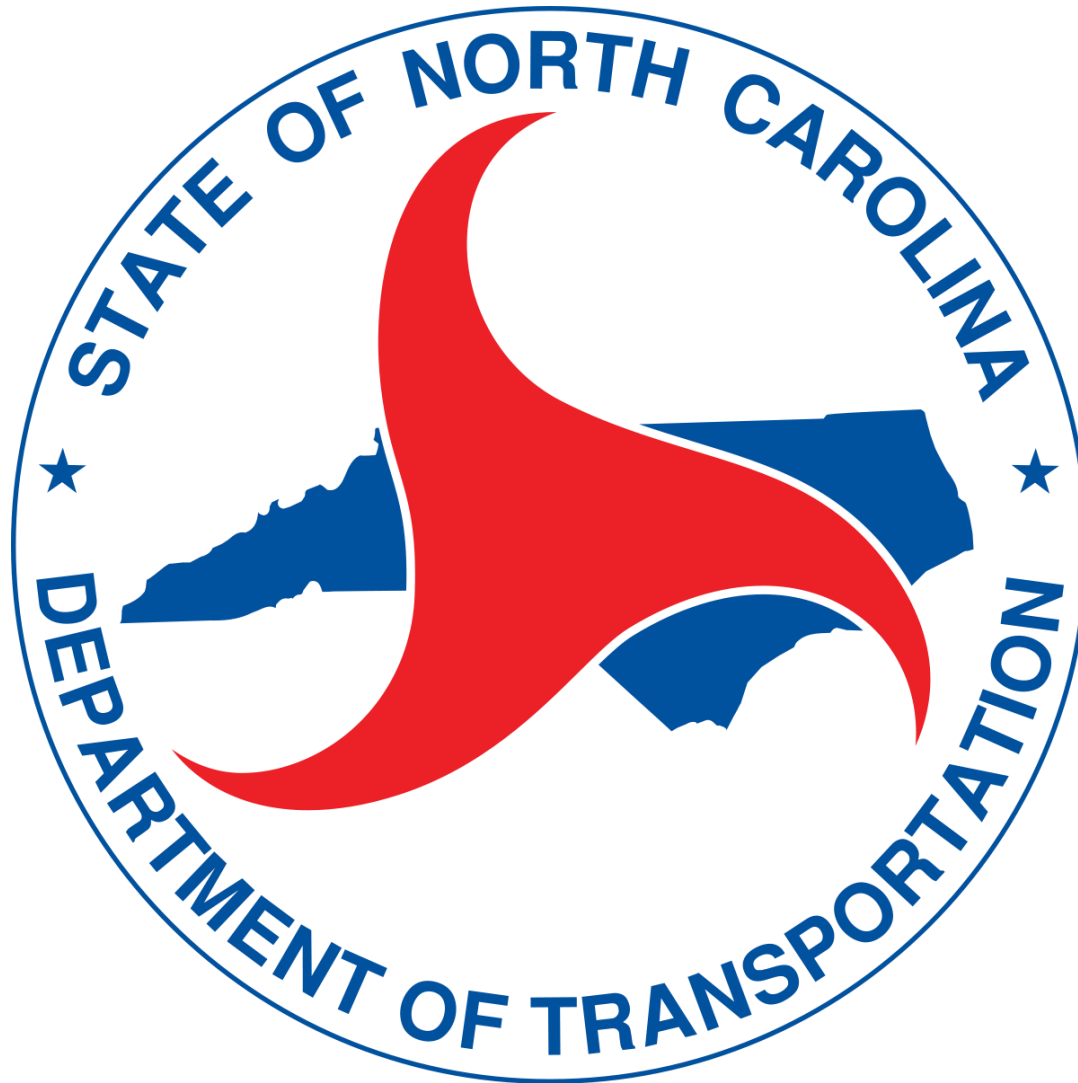
Data Source

OpStats
Census

Program Source

<https://www.transit.dot.gov/funding/grants/metropolitan-statewide-planning-and-nonmetropolitan-transportation-planning-5303-5304>

State Funding Programs



SMAP -- State Maintenance Assistance Program

Purpose

- Provide Operating assistance to urban, small-urban and regional fixed route and commuter bus systems

State Share

- Will not exceed Local Share after subtracting Operating Revenues and Federal Assistance

Allocation

- 10% divided equally among all recipients
- 30% based on recipient's local commitment as a percentage of statewide sum of local commitment
- 30% based on recipients trips per hour calculation
 - OpStats trips and hour service data
- 30% based on recipients net cost per trip calculation
 - OpStats trips service data

Population Allocation

10%	Base
30%	% Local
30%	Trips/Hour
30%	Cost/Trip

ROAP -- Rural Operating Assistance Program

- Eligible Participants
 - County Governments
 - Regional Public Transportation Systems
- Programs
 - **EDTAP: Elderly and Disabled Transportation Assistance Program**
 - **EMPL: Employment and Transportation Assistance Program**
 - **RGP: Rural General Public**
- Source
 - <https://connect.ncdot.gov/business/Transit/Documents/Completed%20FY18%20ROAP%20Documents.zip>

EDTAP -- Elderly and Disabled Transportation Assistance Program

Purpose

- Provide operating assistance for transportation of elderly and disabled

State Share

- Funds up to 100% of the cost of service

Allocation

- 50% divided equally among all recipients
- 22.5% based on recipients percentage of senior population to statewide senior population
- 22.5% based on recipients percentage of disabled population to statewide disabled population
- 5% based on population density factor recognizing higher transportation costs in sparsely populated service areas

Population Allocation

50%	Base
22.5%	Senior
22.5%	Disabled
5%	Density

EMPL -- Employment and Transportation Assistance Program

Purpose

- Help DSS clients that have:
 - Transitioned of Work First or Temporary Assistance for Needy Families (TANF)
 - Workforce Development
- Transportation of Disadvantaged public
- Provide transportation to general public for work, employment training and/or other employment related destinations

State Share

- Funds up to 100% of the cost of service

Population Allocation

10%	Base
45%	% State
22.5%	% Unemployed

Allocation

- 10% divided equally among all recipients
- 45% based on recipients percentage of population to statewide population
- 22.5% based on recipients percentage of unemployed population to statewide unemployed population

RGP -- Rural General Public

Purpose

- Provide transportation for individuals that do not have a human service agency or organization sponsor
 - Passenger origin or destination must be within rural area

State Share

- Funds up to 90% of the cost of service

Population Allocation

50%	Base
50%	% Rural

Allocation

- 50% divided equally among all recipients
- 50% based on recipients rural population as a percentage of statewide rural population
 - Rural area population defined by population outside 2010 Census UZA

Strategic Transportation Investment Act (STI)

- Prioritization process for implementing STI
- Passed NC Legislature in 2013
- “Allocates available revenues based on data-driven scoring and **local input**.”
 - Make sure to talk with your MPOs and Division engineers when submitting a project
- Most State capital funding goes through this process
- Multiyear process
- Minimum total project cost = \$40,000
- Can request between 10% and 90% of total project cost

STI Project Types

Mobility

- Route-specific vehicles (new or expansion only)
 - Fixed guideway, fixed route, deviated fixed route
- Corridors
 - Fixed guideway (commuter, intercity, light rail)
 - Bundle (vehicle + other)
 - Bus Rapid Transit (BRT)
 - Bus on Shoulder (BOSS)

Demand Response

- Demand Response vehicles (expansion only)
 - No facilities
 - Either submit under Facility or Mobility (if bundled with vehicle)

Facilities

- Passenger Stations
- Individual/bundled stops/shelters
- Individual/bundled park & ride lots
- Administrative/Maintenance buildings

STI: Mobility

Impact

Purpose: Measure number of trips affected by project

Data: Projected additional trips due to implementation of project (10 years in future)



Demand/Density

Purpose: Measure total trips compared to service area population

Data: Existing trips, projected trips (10 years), service area population



Efficiency

Purpose: Measure total trips compared to service area population

Data: Existing trips, additional trips, existing revenue hours, additional revenue hours, existing seats, additional seats

Cost Effectiveness

Purpose: Measure additional trips generated compared to annualized cost to NCDOT

Data: Additional trips, Cost to NCDOT

STI: Demand Response

Impact

Purpose: Measure number of trips affected by project

Data: Projected additional trips due to implementation of project (10 years in future)

Demand/Density

Purpose: Measure total hours of system compared to population

Data: Existing hours, projected hours, service area population



Efficiency

Purpose: Measure the utilization ratio

Data: Total fleet size, vehicles in maximum service (VUD)

Cost Effectiveness

Purpose: Measure additional trips generated compared to annualized cost to NCDOT

Data: Additional trips, Cost to NCDOT

STI: Facilities

Impact

Purpose: Measure number of trips affected by project

Data: Projected additional trips due to implementation of project (10 years in future)

Demand/Density

Purpose: Measure growth in ridership over previous 5 years

Data: Total trips per year



Efficiency

Purpose: Measure efficiency of result of project

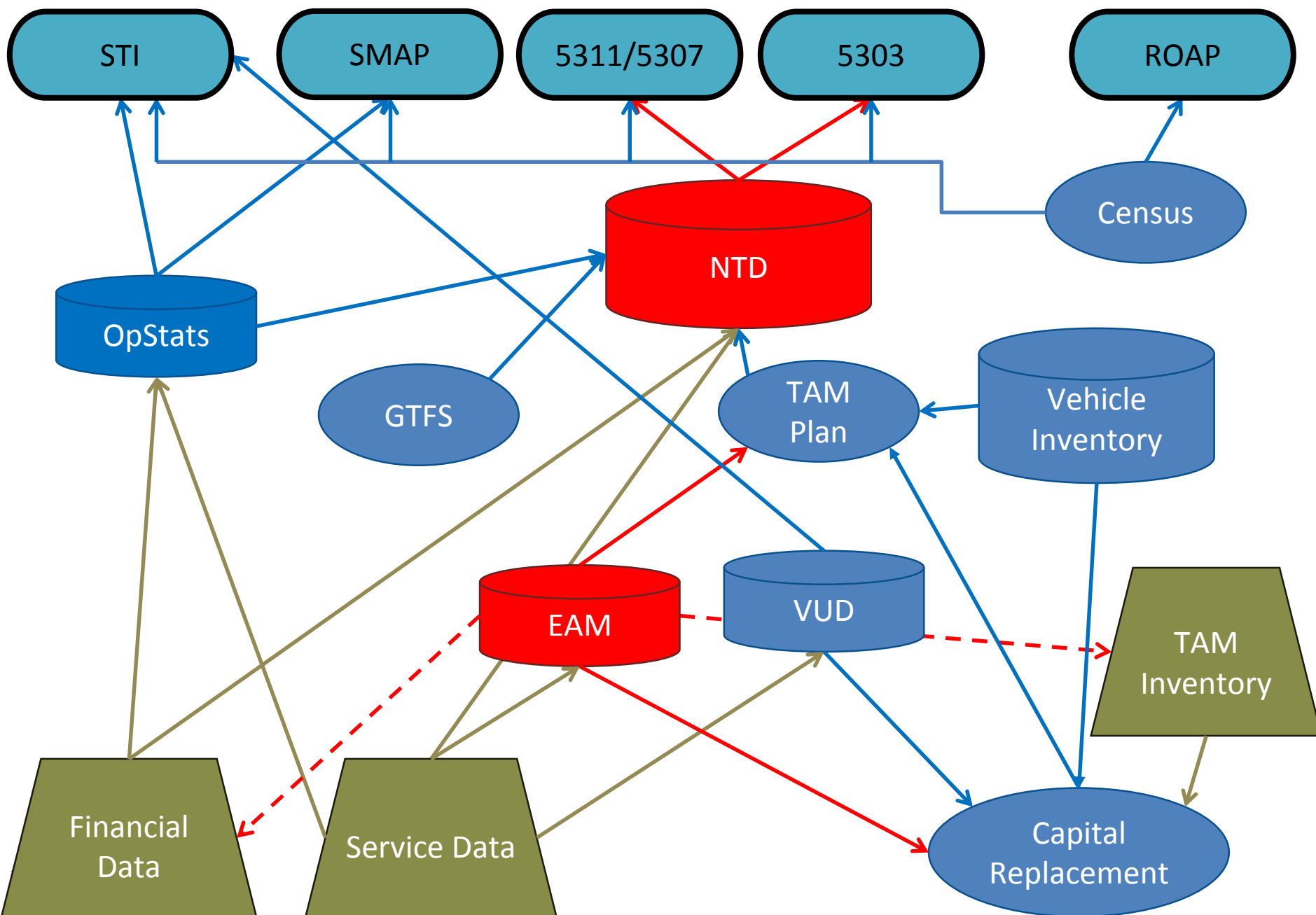
Data: Forecasted annual trips, square footage per FTE, number of vehicles per bay

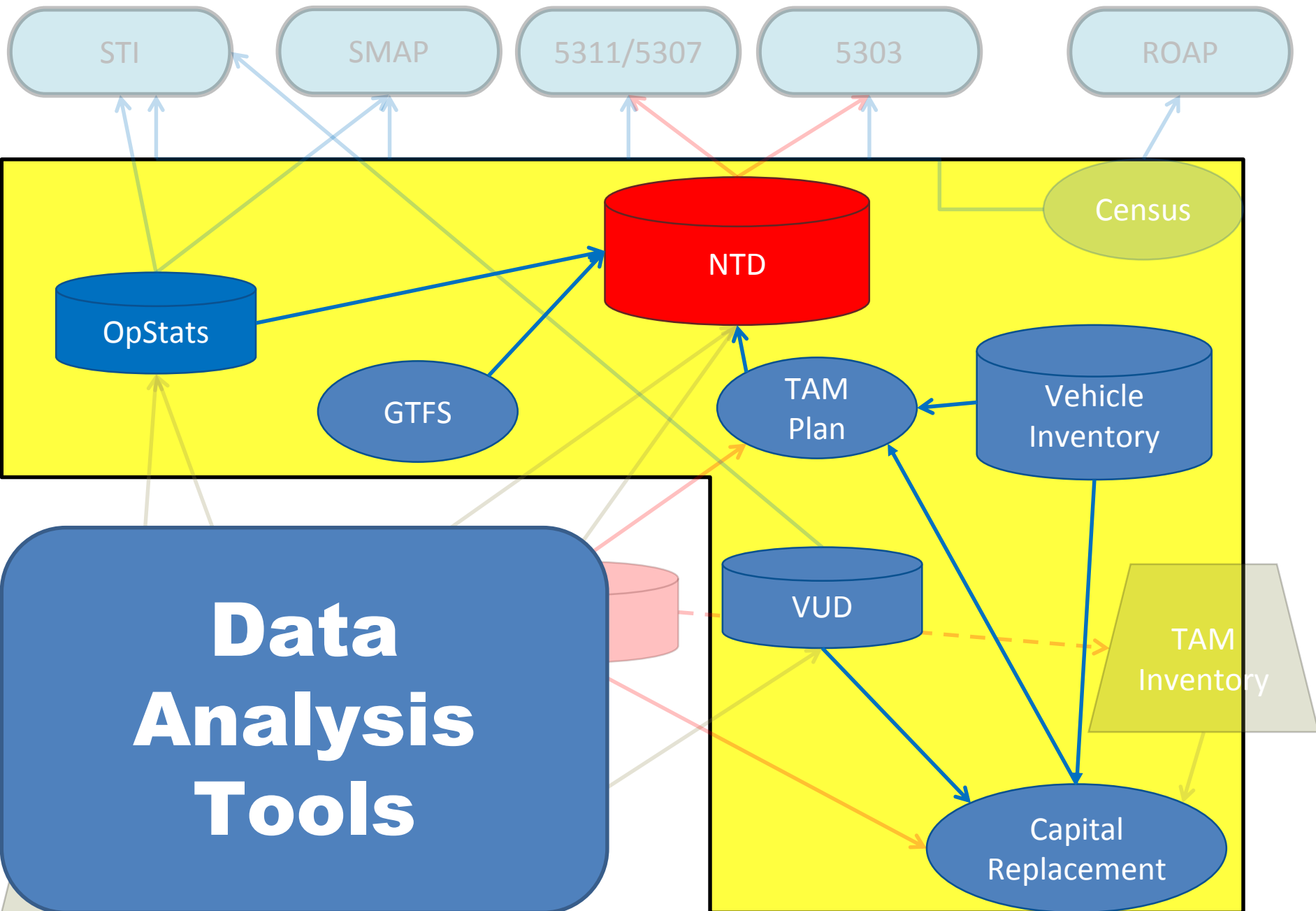
Cost Effectiveness

Purpose: Measure additional trips generated compared to annualized cost to NCDOT

Data: Additional trips, Cost to NCDOT

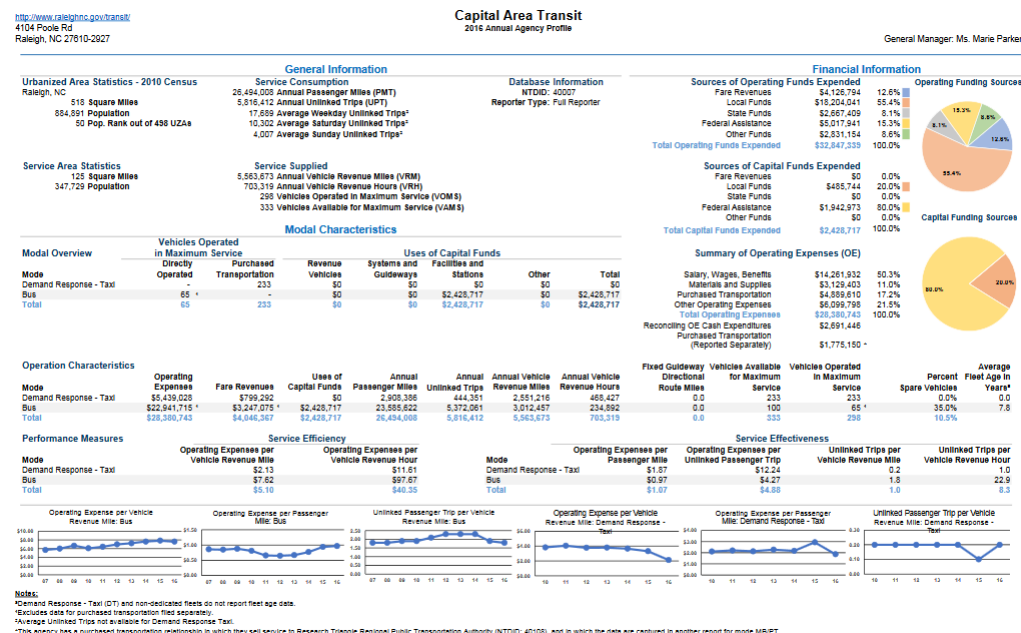






National Transit Database (NTD)

- Web-based data warehouse of all public transportation service and financial data
 - Trips, miles, hours (OpStats)
 - Expenses = revenues (OpStats)
 - Vehicles & facilities (EAM & TAM Inventory)
 - TAM Plan (part of state report)
- Data used in Federal Formulas obtained from what is reported to NTD
 - Need to be accurate & consistent



OpStats (Operating Statistics)

- Operational Statistics collected yearly
 - Service Data
 - Trips/Miles/Hours
 - Financial Data (by mode)
 - Revenues/Expenses
- Used to report to the National Transit Database (NTD)



State-Wide Public Transportation Summary

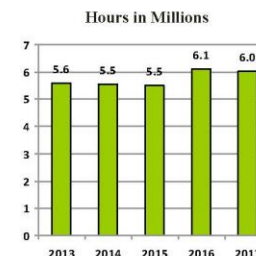
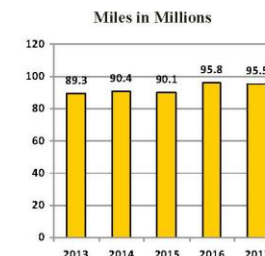
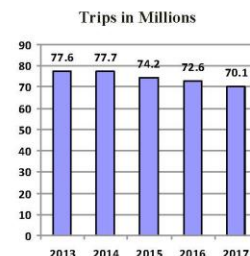
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FY 2017 NCDOT Public Transportation Division

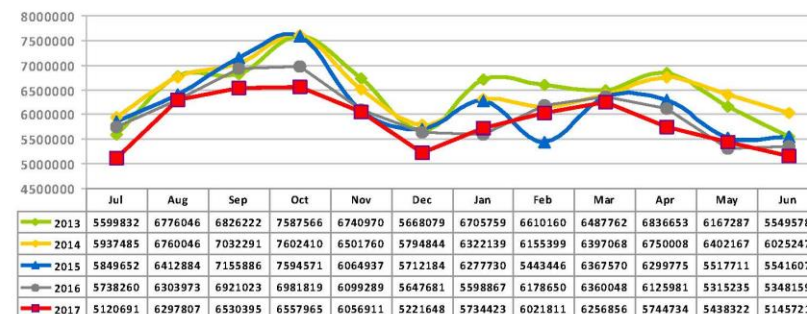
Public Transportation Operating and Financial Statistics Report

FY17

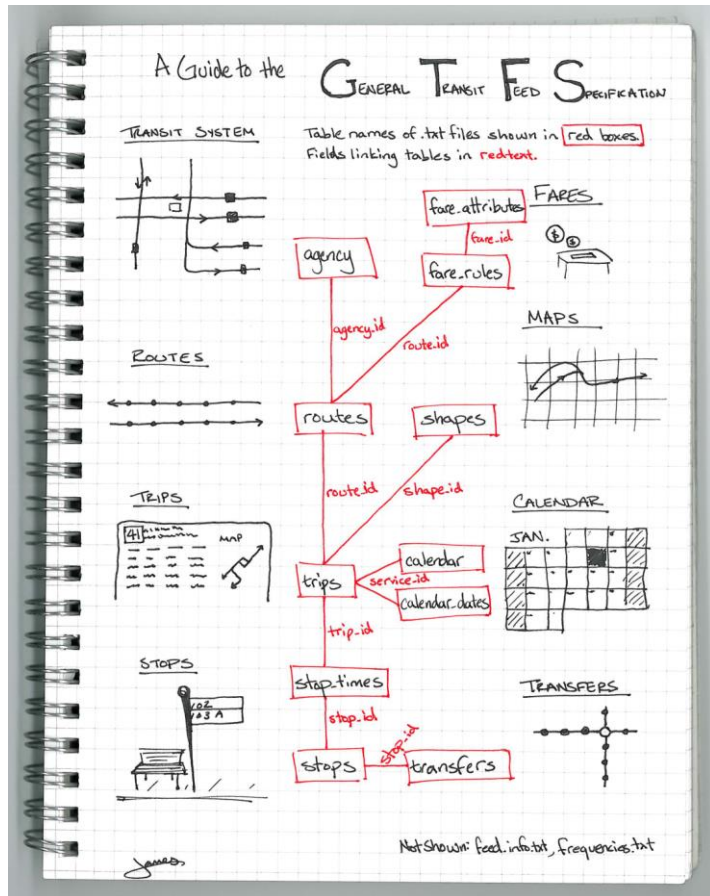
System By Type		Highlights		
		Trips	Miles	Hours
Human Service	1			
Fixed Route in Small Cities	1	<i>Community Transportation</i>	6,835,926	46,229,624
Regional Urban	2	<i>Urban Public Transportation</i>	63,291,358	49,248,328
Consolidated Small City-Community	2	<i>Vanpool</i>		-
Consolidated Urban-Community	4	<i>Intercity Bus</i>		-
Regional Community	7	<i>Trips by Other Providers</i>		-
Urban-Single City	16	<i>Total</i>		-
Community	65			
Total Public Transportation Systems:		98		



Total Trips By Year



GTFS (General Transit Feed Specification)



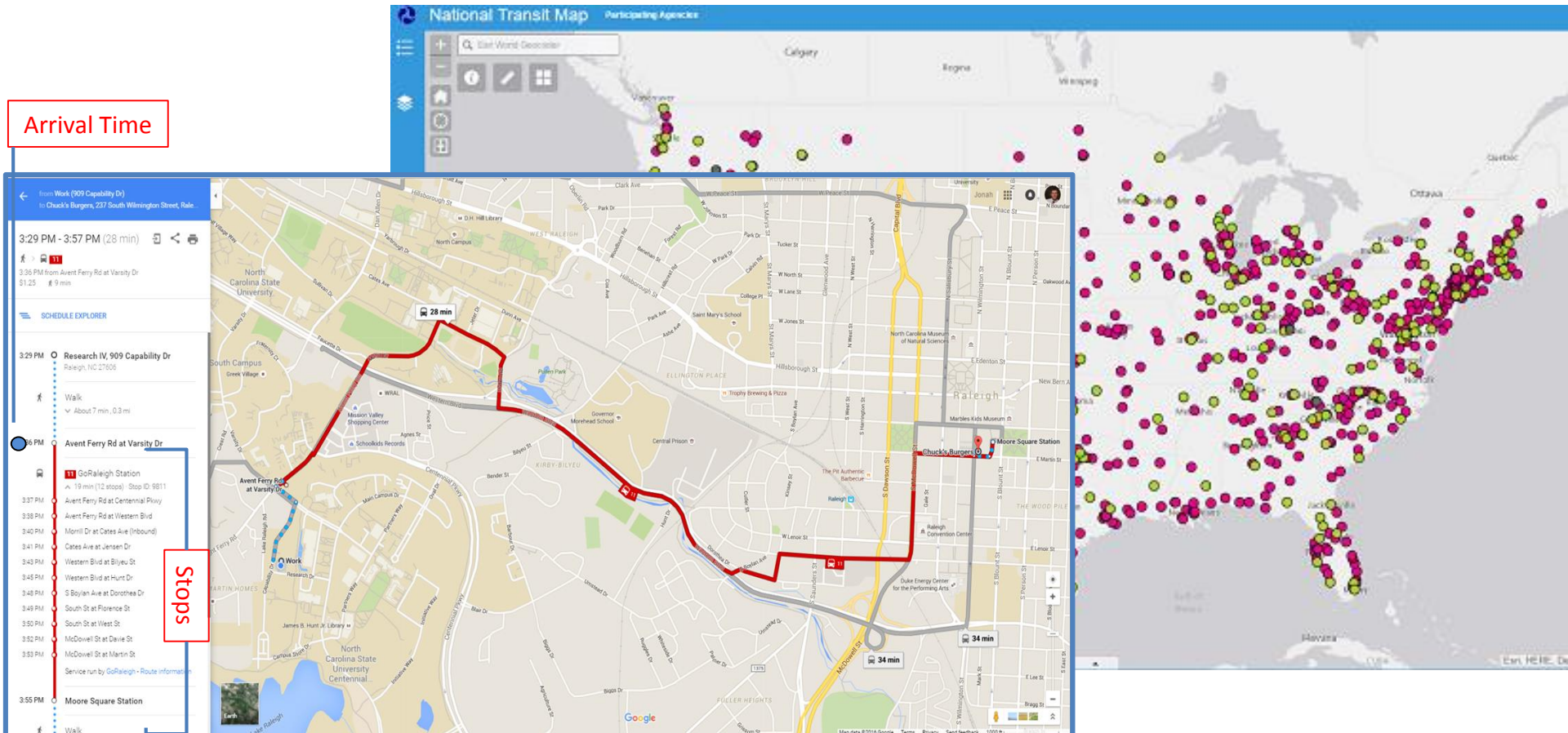
- GTFS is a simple series of .csv files that translate transit data into a machine readable format
- No current relationship to funding, however, the data will be used in the Statewide Connectivity Analysis.



GTFS (General Transit Feed Specification)

- The standardized format is also used by both Google and NTD in the National Transit Map. Participation in both helps to promote fixed/deviated fixed route service.

Arrival Time



Vehicle Utilization Data

- 1 week snapshot of service data used to estimate each transit agency's general fleet utilization
- Used to inform:
 - Capital Replacement Plan in projecting vehicle mileage
 - STI (Strategic Transportation Investment) Prioritization

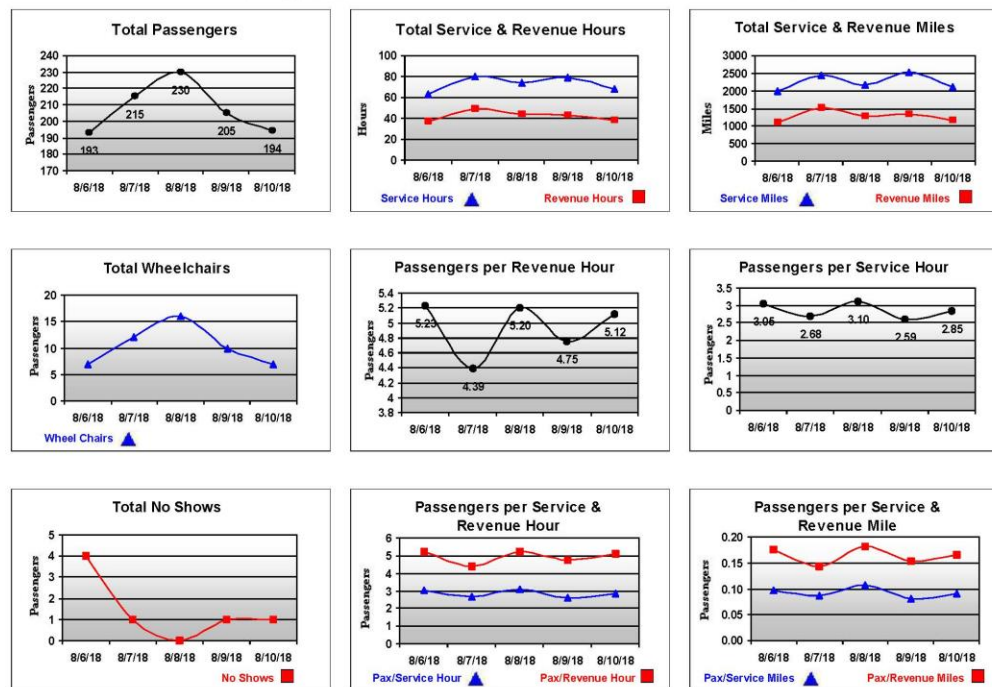
Performance Indicators (Daily) and CAP

From 8/6/2018 to 8/10/2018



Performance Indicators (Daily) and CAP

From 8/6/2018 to 8/10/2018



BRUNSWICK TRANSIT SYSTEM INC.

8/28/2018

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Vehicle Inventory

TAM Plan

Capital Asset Inventory

- Combines the NCDOT Vehicle Inventory with TAM Inventory to create a complete Capital Asset Inventory
- The purpose of the group plan option is to reduce the planning and reporting burden on smaller transit agencies from having to develop individual plans and to report to FTA's National Transit Database (NTD) on their own.

FTA Transit Asset Management Guide for Small Providers 4/16/2018 11:55 AM

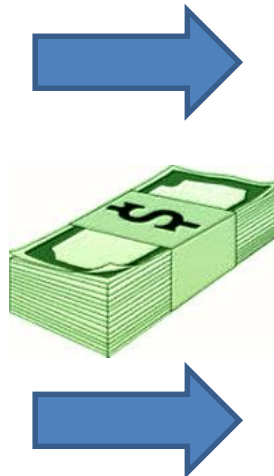
Inventory Table

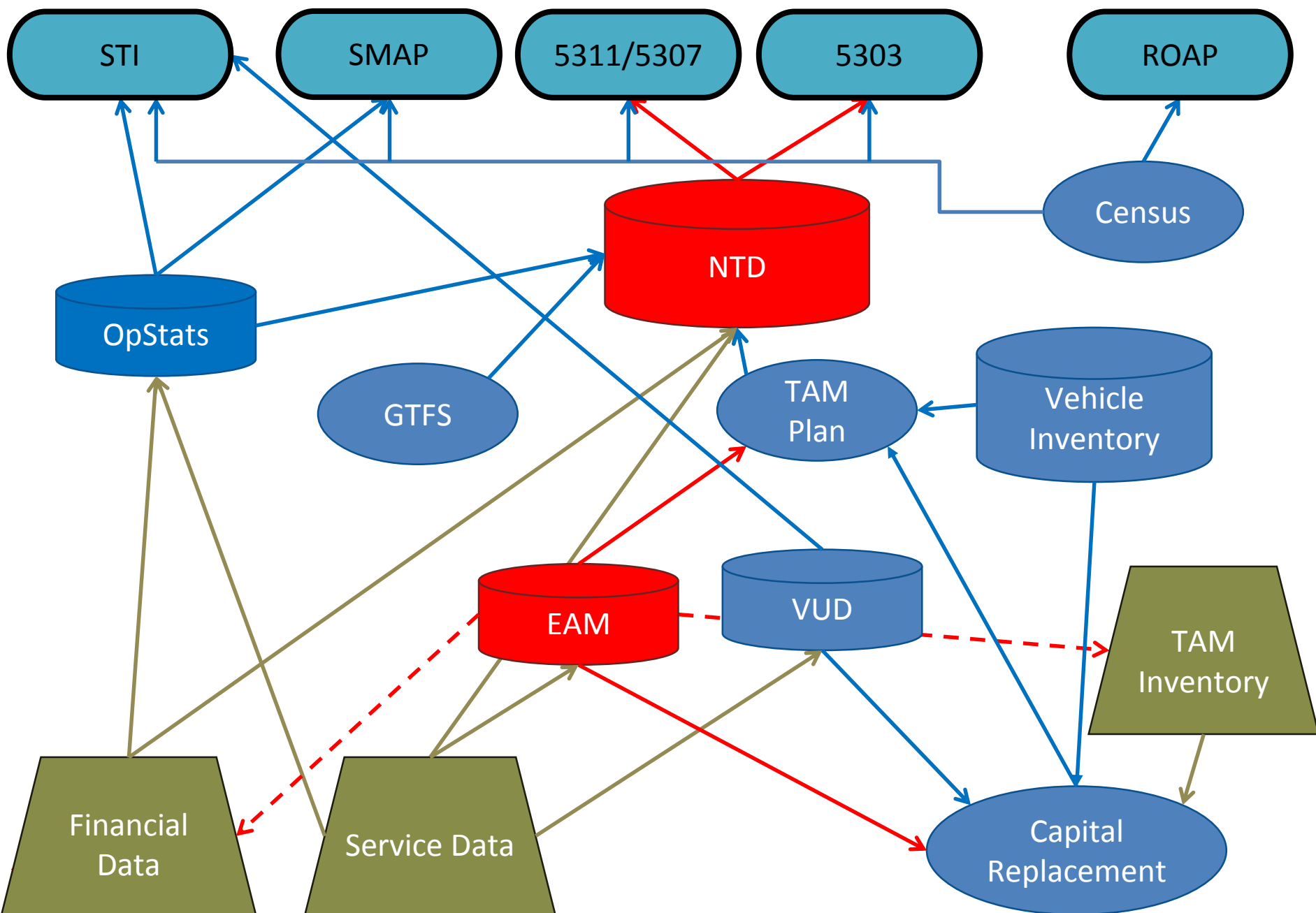
Asset Category	Asset Class	Asset Name	Make	Model	Count	ID/Serial No.	Asset Owner	Acquisition Year	Vehicle Mileage	Replacement Cost/Value
Facilities*	Maintenance	York Street Maintenance Building	N/A	N/A		1 MAINT0010	Example Agency	2000		\$50,000.00
Facilities	Administration	234 E Summit Ave	City		1		Burlington	1990		\$350,000.00
Facilities	Administration	700 N Broad			1		City of Gastonia	1980		\$506,368.00
Facilities	Administration	ACT Facility			1	11_F20382	Transportati	2007		\$1,085,870.00
							Alamance County			
Facilities	Administration	Adm Office			1	1_ACTA-FAC-	Transportati	2002		\$3,159.00
Facilities	Administration	ADMIN			1	1	Lee County	1939		\$350,000.00
Facilities	Administration	Building			1	CAB	Transportati	1989		\$3,204.00
Facilities	Administration	Admin Bldg			1	55_10836	Dare County	1950		\$350,000.00
Facilities	Administration	Admin Bldg			1	C/1	County	1986		\$350,000.00
Facilities	Administration	ADMIN BLDG			1	187_ADMIN-FAC-1	Washington County	1991		\$100,000.00
Facilities	Administration	Admin Bldg			1	113_MAC-FAC-	Macon	2002		\$312,000.00
Facilities	Administration	Admin Bldg			1	101_Admin.	Johnston	2004		\$63,977.00
Facilities	Administration	Admin Bldg.			1	57_DAV-FAC-	Davidson	2006		\$131,974.00
Facilities	Administration	Admin Bldg.			1	107_LCTfac-1	Lenoir County	2008		\$12,951.00
							Yancey County			
Facilities	Administration	Admin build			1	199_YANCEY CO	Transportati	1955		\$350,000.00

- Listing of all capital assets in all 3 Asset Categories

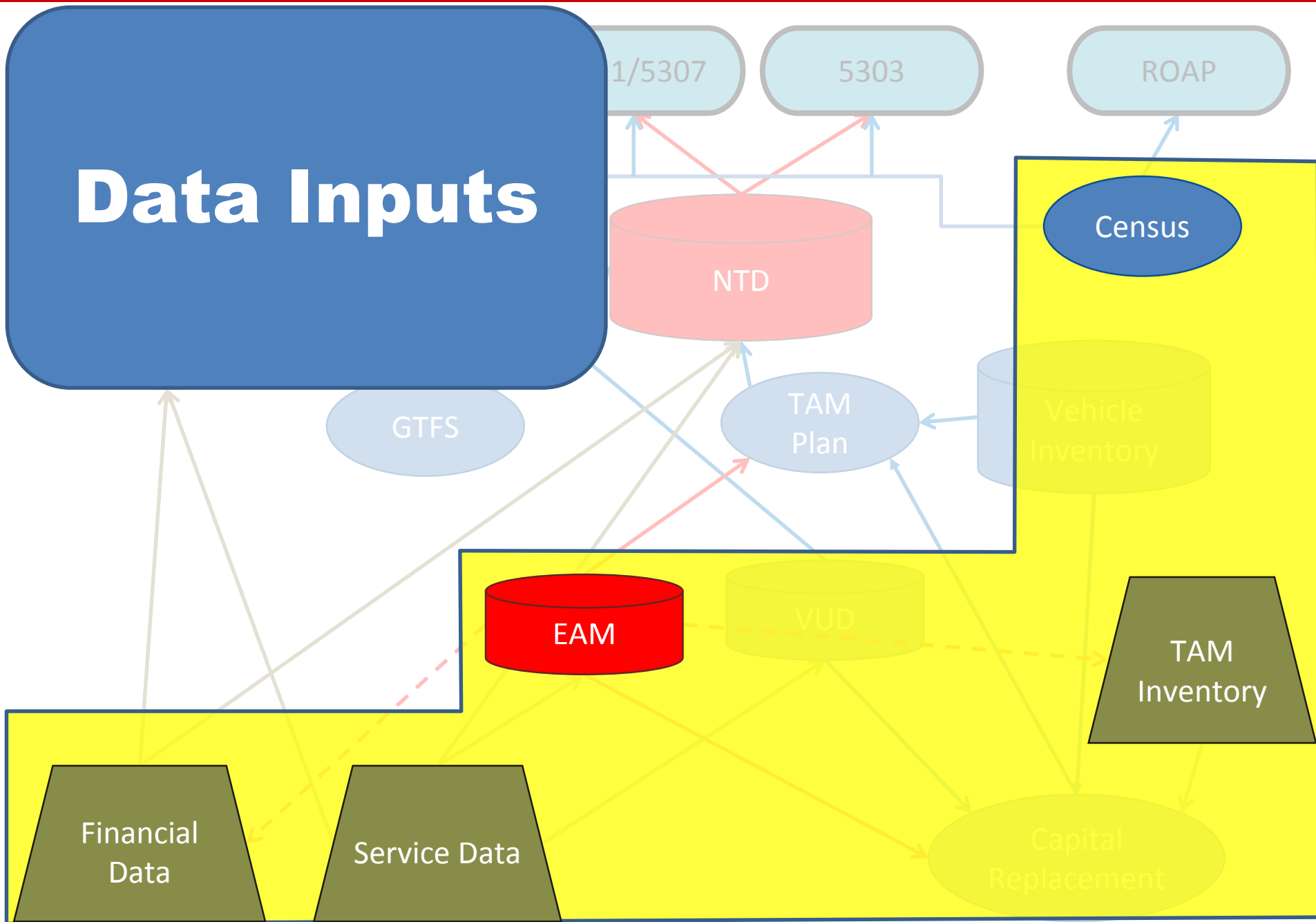
Capital Replacement Plan

- Determines NCDOT Vehicle Replacement Schedule by calculating:
 - Remaining Mileage for Replacement Eligibility
 - Agency Fleet Utilization and Spare Ratio
 - Urban - Rural Fleet Proportions
 - Total Vehicle Replacement Costs by Year
 - Downsizing Needs and Expansions

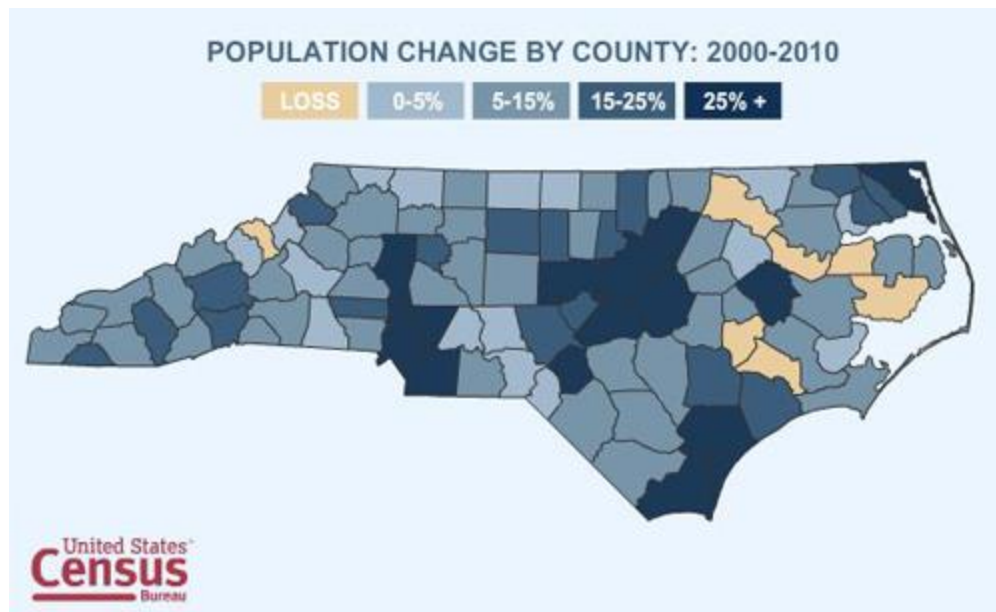




Data Inputs



Census Data



United States
Census
2020

- 2020 Census coming soon
- Strictly Informs ROAP Allocations
- Plays a role in basically every formula used to calculate funding
 - Constituents need to respond to surveys that are sent out to inform the local census

TAM Inventory

- Rolling Stock

[illegible]

- Equipment

[illegible]

- Facilities

Select System Name								
Agency Asset ID	Asset Class	Funding Source	Date of Acquisition/Rental	Facility Address	Asset Owner	Age (Years)	TERM Scale Condition	Replacement Cost/Annual Rent
ACTA-FAC-2	Administration	Local	5/5/2005	101 Fake Street, Town, NC 22222	Agency	12	4	\$500,000.00

- Informs NCDOT and FTA Financial Planning Tools including:
 - NCDOT Capital Replacement Plan
 - FTA TAM Plan
 - NCDOT Equipment Management and Financial Planning
 - STI (Strategic Transportation Investment)

EAM (AssetWorks)

- Asset Management software designed to simplify the process of tracking maintenance and vehicle related data.
- Used to track mileage on all vehicles in an agency's fleet.
- Mileage informs:
 - Vehicle Replacement Plan
 - TAM Inventories
- Financial Info
 - Fuel Costs
 - Repair Costs
- Used to inform OpStats which informs NTD



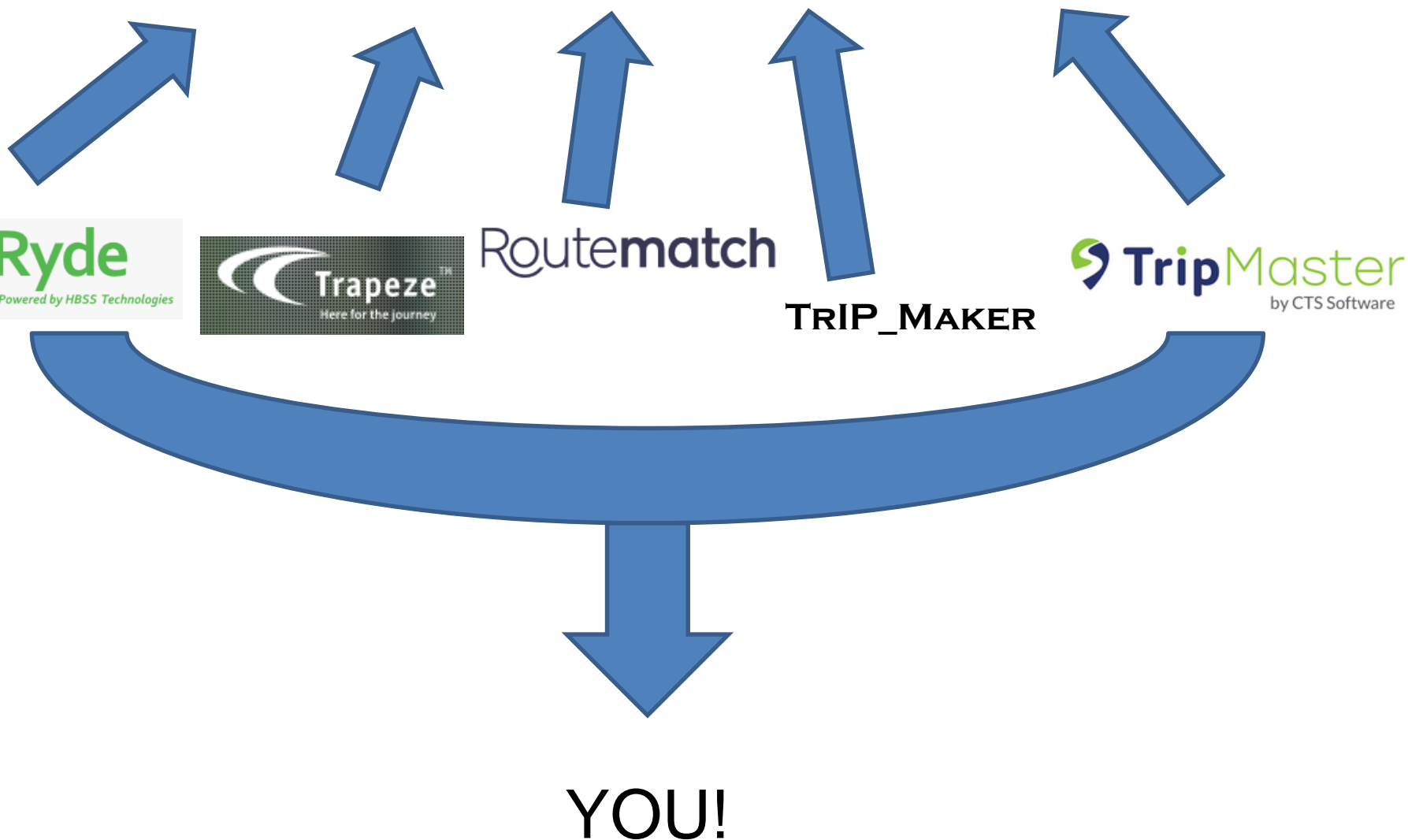
Service Data

- Passenger Trips
 - Medicaid
 - Non-Medical Contract
 - Non-Contract
- Miles
 - Service
 - Revenue
- Hours
 - Service
 - Revenue
- Source: TrIP_Maker, RouteMatch, HBSS, CTS, APS, Tablet, Excel,...

Financial Data

- Revenues
 - Grants
 - Fares
 - Donations
 - Contract Revenue
- Expenses
 - Admin/Driver salaries
 - Fuel & Maintenance
 - Capital & Technology

Service & Financial Data



Questions?



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